

43. The Subspecies of the Spanish Ibex.

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(Plates LII.-LIV.* and Text-figures 194-199.)

The first scientific description of a Spanish Ibex was that published in 1833 by F. Cuvier, in the great iconographic work 'Histoire Naturelle des Mammifères,' pl. 396. It was based on a young male from the Pyrenees, of which the author gave a beautiful figure in winter pelage, but was not accompanied by any technical name. In the index of the work, published in 1842, the animal is erroneously called *Capra ibex*, the fact being apparently ignored that four years before Schinz had described the same form of Goat under the name *Capra pyrenaica* †.

In volume xxvi. (1848) of the 'Comptes Rendus' of the Paris Academy of Science, Schimper briefly mentioned the Ibex of the Andalusian sierras, naming it *C. hispanica* and considering it as quite a different species, a view followed by all the authors of the time, and sustained still in our own days by Forsyth Major ‡ and Graells §. Modern zoologists, however, seem to agree in admitting only one species of Spanish Ibex, though admitting that there are some differences between the specimens coming from the Pyrenees and those from other parts of the Peninsula. Slater || considers the latter as a "slightly altered phase" of the former; and Trouessart, in his 'Conspectus Mammalium Europæ,' expresses the same idea in a more modern fashion, describing two different subspecies: *Capra pyrenaica*, from the "chaîne des Pyrénées," and *C. pyrenaica hispanica*, from the "chaînes de montagnes de l'Espagne Centrale et Méridionale."

I do not intend to discuss now the meaning of the terms species and subspecies. While awaiting a satisfactory and universally accepted definition of these words, I agree with other authors in considering all the Spanish Wild Goats as belonging to a single species; but as to the number of subspecies, I think there are, not two, but three at least, the Ibex of Central Spain being quite different from both the Pyrenean and the Andalusian forms. This view has been anticipated by Ménégau in Perrier's 'Vie des Animaux,' as he says that "la forme qui habite les sierras du centre de la Péninsule fait le passage entre les deux formes susnommées" (*pyrenaica* and *hispanica*). This central subspecies remains, however, unnamed and undescribed as a different form, and to name and describe it are the chief purposes of the present paper.

* For explanation of the Plates see p. 977.

† Neue Denkschr. Allg. Schweiz. Ges. Nat. ii. 1833, p. 9.

‡ Atti Soc. Tosc. Sc. Nat. iv. 1879, p. 2.

§ Memorias Acad. Cienc. de Madrid, xvii. 1897, p. 356.

|| P. Z. S. 1886, p. 315.

Before doing so, I must remark on the geographical distribution of the species and on the differences between the various races.

In that interesting book 'Unexplored Spain,' MM. Chapman and Buck have quite recently told the history of the Wild Goats of Spain and the manner in which they are protected against imminent extinction, giving some details about their present distribution. The authors are not exact, however, in saying that the isolated colonies now formed by the Ibex have been "separated from each other during ages." There are, in fact, strong reasons for believing that in the past Ibexes inhabited every suitable point of almost every mountain ridge in Spain. Names recalling its existence, such as Las Cabras, Cabrales, Cabrera, Cabreira, Cebreros*, &c., are quite common in all the mountainous districts. In the seventeenth century the species was found in all the Sierra Morena and Sierra de Cazorla. The Sierra de Segura, Sierra de Francia in the Salamanca Province, and the Toledo Mountains, where it does not exist to-day, formed parts of its range sixty years ago, and it has been found in the Sierra de Bejar, between the Sierras of Francia and Gredos, so recently as 1897 †; and in 1861, the date of Seoane's 'Fauna mastológica de Galicia,' a few individuals remained in the mountains of that region. That Ibexes inhabit, or at least inhabited in 1890 ‡, the mountains of Gerez, in the northern border of Portugal, is a well-known fact.

In connection with the existence of Ibexes in the western extreme of the Cantabrian chain, it must be remembered that fossil remains of *Capra pyrenaica* have been found in Santander, and from this we may surmise that the species reached the north-western corner of the Peninsula from the Pyrenees, through that northern ridge. It spread from there southwards into the central sierras, either through Portugal by the Serra da Estrella, included in its range by Trouessart, or directly through the Burgos mountains and the Guadarrama. Father Saturio Gonzalez, a noteworthy collector of mammals, tells me that he has found in the old monastery of Silos a pair of Ibex horns which have been preserved there for centuries, and about sixty miles east from Santo Domingo de Silos there are a Sierra de Cabrejas and a village named Cabrejas del Pinar. These facts seem to suggest that the Ibex was once common in the mountains connecting the northern chain with the Sierra de Gredos, but, since there is not any evidence of its existence in the Guadarrama, too much confidence cannot be put in this hypothesis.

As to the Andalusian sierras, it is evident that the Ibex found

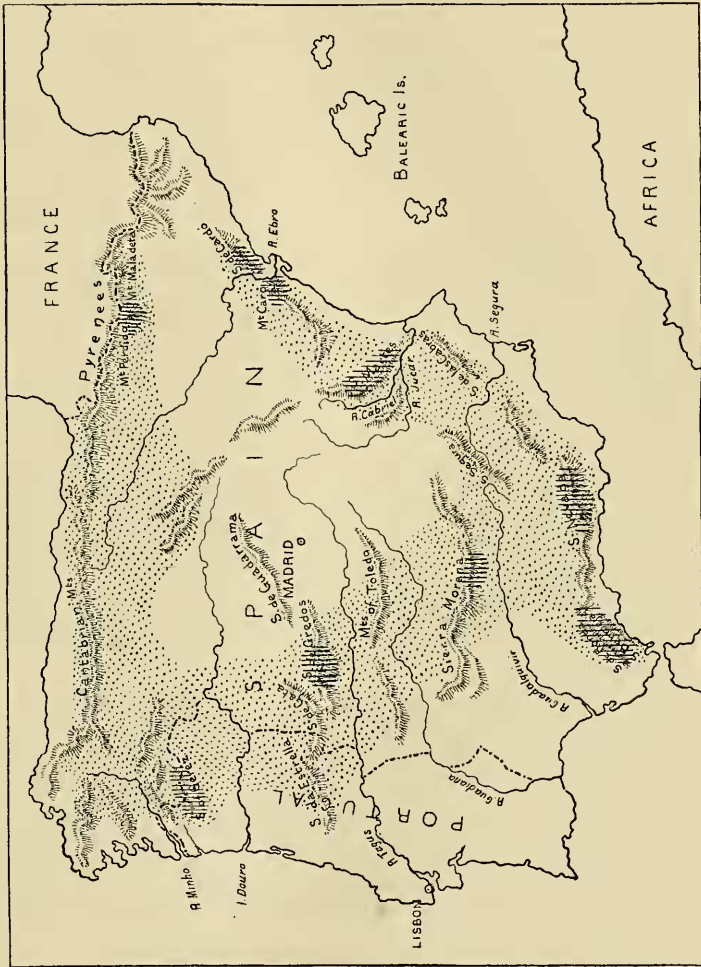
* *Cebra* was frequently used instead of *cabra* as a name for the Ibex during the twelfth and thirteenth centuries. It was from this that the old Spanish writer Father Sarmiento supposed that Zebras formerly existed in Spain. The modern vernacular name of the animal is *cabra montés* (Mountain Goat), or simply *montés*, but there are some other local names. In the mountains about the lower Ebro it is called *sawatge* (the wild one); the people of Galicia call it *craba brava* or *craba fera* (Wild Goat), whereas in the Pyrenees the name *bucardo*, related to the English *buck* and the French *bouc* and *bouquetin*, is commonly used.

† Rivas Mateos, *Actas Soc. Esp. Hist. Nat.* 1897, p. 208.

‡ P. de Oliveira and L. Vieira, *Annaes Scienc. Naturaes*, iii. 1896, p. 91.

its way to them by the Toledo mountains and the Sierra Morena, turning afterwards along the mountainous ridges of Eastern Spain northwards to the lower Ebro basin. Notwithstanding the proximity of this region to the Pyrenees, I cannot believe that the Ibex inhabiting it immigrated directly from the Pyrenean chain, as it is very different from the form found here, and quite indistinguishable from the southern race.

Text-fig. 194.



Map showing the probable former distribution (dotted areas) and present colonies (vertical lines) of the Spanish Ibex.

In the geographical range of the Spanish Ibex four perfectly distinct areas may be distinguished, although now reduced to a number of small isolated colonies by continued persecution from PROC. ZOO. SOC.—1911, No. LXVI, 66

the Middle Ages, when wild-goat meat was a very favoured dish at every Spanish table. A different subspecies is found in each of these areas, as follows:—

(a) Pyrenean area, comprising the Spanish side of the Pyrenees and, in former times, the eastern part of the Cantabrian chain. Its peculiar Ibex is *Capra pyrenaica pyrenaica*. It may be considered as practically extinct, being today found only in the northern extreme of the Huesca Province, about the Mount Perdido*. Two old bucks, three females, and three or four half-grown individuals remained there in 1907 †. In a recent letter on this subject, the Count of San Juan, who spends a great part of his time hunting in the Pyrenees, kindly informs me: "I think that probably no more than ten or twelve Ibexes remain in all the Pyrenean chain. A pair survived recently in the Maladeta; somebody shot the female, and the male sought refuge among a herd of domestic Goats and was subsequently killed by the goatherd."

(b) North-western, or Atlantic, area, formed by the mountains of Galicia and Northern Portugal. The lack of suitable material prevents correct identification of the Wild Goat found there, but from the description by Barboza du Bocage ‡ I surmise that it represents a peculiar subspecies, which I do not care to describe at present. At all events, it is well-nigh extinct, only a few specimens, if any, remaining in the Portuguese mountains of Gerez. Not being a Spanish race, we need not discuss it now.

(c) Central area, embracing the Sierra de Gredos and, in the past, the ridges of El Barco, Bejar and Francia, and the hills of Toledo. The subspecies inhabiting this area, at present reduced to a single colony in the highest peaks of Gredos, will be named and described below. MM. Chapman and Buck have told the history of this Ibex so accurately that it is unnecessary to repeat it here. The colony consists of about three hundred and fifty head, and having been under royal protection since 1905 it is rapidly improving.

(d) Mediterranean area, from the mountains forming the Guadalquivir basin, eastwards and northwards through the sierras of the Valencia Province to the mouth of the Ebro. It is inhabited by *Capra pyrenaica hispanica* (type locality, Sierra Nevada), a subspecies not so near extinction as the Pyrenean and Central forms. No less than six colonies, in fact, are known to exist, the exact number of heads in each of them being unknown. Three of these colonies are in South Spain, viz.:—one in Sierra Nevada, another in the two parallel ridges of Sierra Bermeja and

* The Mont Perdu of the French. It is a custom with many English writers to use French names for localities on the Spanish slope of the Pyrenees, but, in my opinion, such a course is against commonsense. Since these localities are in Spain, Spanish names must be preferred in every case in which there is not an English name for them.

† Gourdon, Bull. Soc. Sc. Nat. de l'Ouest de la France, (2) viii. 1908, p. 12.

‡ Mem. Acad. Sc. Lisboa, 1857.

Sierra de Ronda from their junction in the Sierra de Tolox, and the third one in Sierra Morena, near Fuencaiente, under the protection of the Marquis of Mérito. Another community of *C. p. hispanica* is that of Sierra Martés, Valencia Province, mentioned by Chapman and Buck. It is very possible that Ibexes exist also in the mountains on the opposite bank of the river Cabriel, a name itself derived from "cabra"; but if such is the case, these Goats cannot be considered a different colony, since they may swim across the river, as a specimen now preserved in the collection of the Institute of Valencia was actually seen to do.

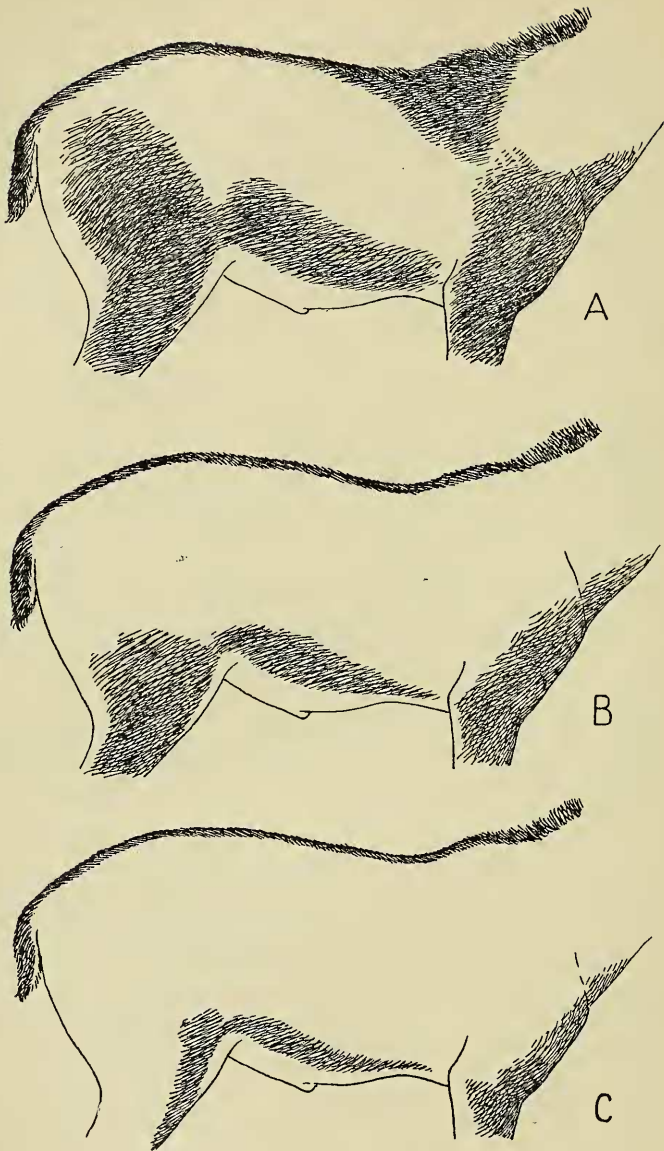
The two remaining colonies of this race are established on the lower Ebro, not far from Tortosa. One of these comprises the Sierra de Cardó and the Tivisa Mountains, where an immature male, recently received by the Madrid Museum, was obtained. The other colony is found on the other side of the river, on Mount Caro.

At first glance, the three subspecies of the Spanish Ibex are much alike, their chief differences being in the horns and in the extent of the black markings peculiar to these Goats. The species, as a whole, may be described as a pale brown animal with the outer side of the limbs black, a black band on the lower part of the flanks, and a short black mane, continued along the back by a narrow stripe. The forehead and the beard are blackish or very dark brown, and the belly and inner part of the limbs white. In winter pelage there is a whitish underfur, quite absent in summer, when the general colour is browner and the black areas become more abruptly definite. The females lack in all seasons the mane and the black markings of the head and body, presenting only a blackish tint on the anterior face of the limbs*, and it is the same with young males, in which the black areas appear in the second or third year, becoming larger and darker as the animal grows older. It is, therefore, very difficult to ascertain the differences between the various subspecies when quite adult males are not at hand.

In the typical *Capra pyrenaica* the dorsal line appears considerably broadened on the withers, frequently forming a large lozenge-shaped blot which in old specimens spreads laterally over the shoulders, coming downwards to coalesce with the black of the fore limbs. The black of the hind limbs extends upwards over the whole external surface of the thighs and on the hind-quarters, sometimes reaching the median stripe on the rump. The Mediterranean *C. p. hispanica* has these black areas considerably reduced, the dorsal stripe being not broadened anywhere, and the black of the fore limbs reaching at most the lower part of the shoulder and the chest, whereas on the thighs it does not reach the haunches and is narrowed to a mere band connecting

* In one of the illustrations in Chapman and Buck's 'Unexplored Spain,' representing the shooting of Ibexes in the Sierra de Gredos, the females are erroneously depicted with a well-marked dorsal line. In reality, this stripe is, in females and young males, very faint or quite obsolete.

Text-fig. 195.



Distribution of the black areas on the body of the Pyrenean (A), Gredos (B), and Mediterranean (C) races of the Spanish Ibex.

the band of the flank with the black of the leg, thus dividing the white of the inner side of the thigh from the general brown colour.

The Goat of Central Spain represents a stage intermediate between typical *pyrenaica* and *p. hispanica* by the spreading of the black areas, this colour invading the lower half of the shoulders and covering the whole outer side of the thighs, but not reaching the withers nor the haunches. The dorsal stripe, as in *hispanica*, is of practically the same width from neck to tail.

Text-fig. 195 clearly shows the gradual decrease in the amount of black as the species approaches the Mediterranean coast. The variation is to some extent parallel to that indicated by Lydekker* for the subspecies of *Capra sibirica*, but in the case of the Spanish Ibex it cannot be attributed to differences in elevation nor to the presence or absence of snow in the localities frequented by each race. I think it interesting to note that young males of *C. pyrenaica pyrenaica*, when two years old, closely resemble, in the black markings, adult males of the Central subspecies, the young of the latter being in turn similar to the adult *C. p. hispanica*.

As to the colour of the upper surface of the body, in winter pelage the three subspecies are much alike, the general tint being pale brownish grey in *C. pyrenaica pyrenaica*, dirty buff, more or less clouded with black towards the lower part of the flanks, in the Ibex of Central Spain, and a paler and less blackened buff in *C. p. hispanica*. The under side of the neck is black or dark brown in the Pyrenean and Central races, and slightly clouded with black in the Mediterranean form. I have never seen a specimen of true *pyrenaica* in summer pelage, but Trouessart describes its colour during that season as "gris brun foncé." In both the two other subspecies it is pale brown, washed with white on the flanks. There is, however, a difference of tint between them, the Central Ibex being browner and the Mediterranean one redder. The colour of the Ibexes of Gredos is near the broccoli-brown of Ridgway, whereas in *C. p. hispanica* it is a tint intermediate between fawn and cinnamon. Each hair is white at the root, after which there is an undulated space rather curiously coloured, as it has one side white and the other side brown. This particoloured space is followed by a broad pale band, and the hair ends in a dark brown point. Now, the difference in colour between the two subspecies depends on the pale subterminal space being entirely cream-buff in the Central Ibex, and white with a broad red ring in *hispanica*.

Another noteworthy difference between these two Ibexes is found in the colour of the hind border of the thighs. In the Central form this part is buff, abruptly contrasting with the brown of the haunches; whereas in the Ibex of the Mediterranean region it is coloured like the rump and the flanks, the tint being

* P. Z. S. 1901. i. p. 91.

only a little paler. Moreover, the sides of the head, grey in the Pyrenean and Central races, are pale buff, clouded with brownish red, in the Mediterranean form.

Text-fig. 196.



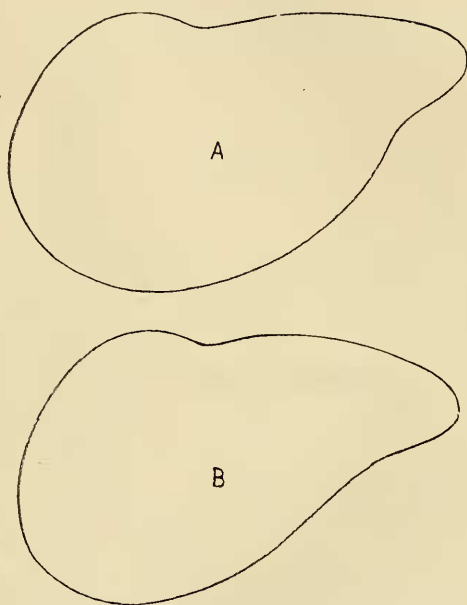
Skull and horns of adult male of the Gredos Ibex ($\times \frac{1}{2}$).
Madrid Museum, No. 1523.

The skulls of *C. pyrenaica pyrenaica* and *C. p. hispanica* have been described by Forsyth Major, who gives a number of differential characteristics, most of them, I think, either merely individual or due to age. A reliable one appears, however, to be found in the shape of the nasals, which are more abruptly narrowed in front in *hispanica* than in true *pyrenaica*. In this respect the Ibex of Gredos is nearer to the Mediterranean race, the border of the nasals forming an almost perfect V in their distal third.

Writing of the horns of Ibexes from different localities, Chapman

and Buck* assert that "examples from the two outside extremes (Pyrenees and Nevada) most closely assimilate in their flattened and compressed form of horn." If by this a lateral compression is to be understood, my own experience bears out this statement; but if we must understand that the individual horn in the Pyrenean and Mediterranean races is flatter from front to behind than in the Gredos subspecies, on careful inspection I cannot agree with the above-quoted authors. The only reliable method for

Text-fig. 197.

Cross-sections of left horns of the Gredos Ibex ($\times \frac{2}{3}$).

A. Madrid Museum. Type.

B. Madrid Museum, No. 447.

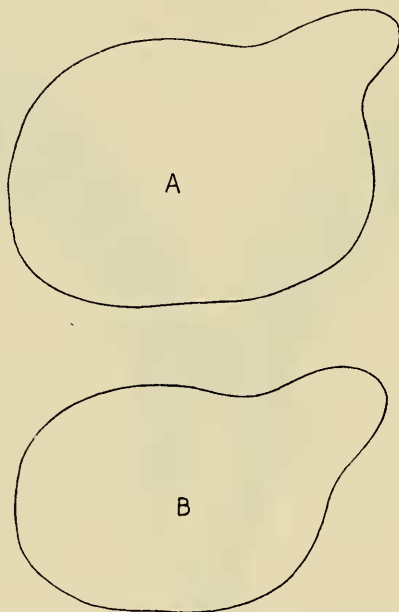
(In this and the two following figures the sections represent the horn as being seen from the tip, the front face appearing above and the inner keel to the right side.)

investigating the true differences, and the one I have followed with every specimen examined, consists in the taking of a cross-section of the horn about the middle of its length. This section is pear-shaped, and somewhat variable even in specimens from the same locality; but in each subspecies it is always easily referable to a peculiar type. Now, in the Gredos Ibex (text-fig. 197) it is

* 'Unexplored Spain,' p. 144.

invariably flatter and broader than in any one of the other subspecies, the difference being chiefly due to the great width, in the former, of the flat upper surface of the inner keel, between its edge and the round part of the horn. The horn sections of *C. p. pyrenaica* and *C. p. hispanica*, although much alike in their more rounded and narrow contour, also differ in form. In true *pyrenaica* the portion of the upper or front face immediately above the keel is markedly hollow, whereas in *hispanica*

Text-fig. 198.

Cross-sections of left horns of the Pyrenean Ibex ($\times \frac{2}{3}$).

A. Mainz Museum. Type.

B. Toulouse Museum.

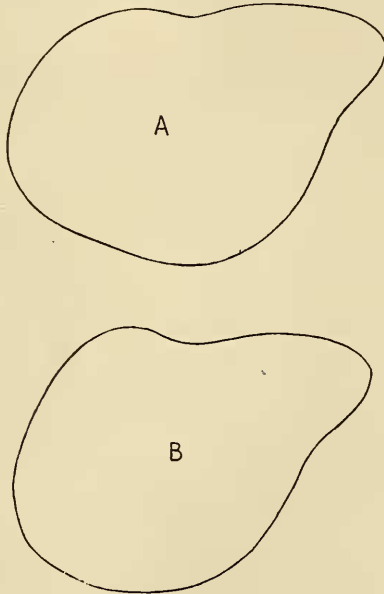
it is slightly convex, the Mediterranean Ibex approaching in this the Gredos subspecies. Of course, these differences can be appreciated only in adult males, as the horns of the young in all the races have a somewhat rounded section with a short projecting tip corresponding to the inner keel. Every specimen I have compared has horns with at least six annulations*.

As to the curvature and direction, the horns are absolutely alike

* The popular belief that each knot or annulation on the horns means a year in the age of an Ibex is no more true than the one assigning the same value to the tines of deer; but, since the number of knots depends on the horn growing, it becomes evident that many annulations, like many tines in deer horns, always indicate an old animal.

in the three races, being twisted in a half-turn of spiral, with the tips sometimes directed inwards and downwards, as in *Capra cylindricornis*, but generally pointing upwards. Thus, the horns, when seen from the front, form a very open lyre, not unlike the lower half of the horns of the Pir Panjal Markhor. In the females they are very short, somewhat lyrate and quite cylindrical, differing from those of young males in the complete absence of keel. The size of the horns in the adult male is decidedly larger in the Pyrenean Ibex, the two other subspecies being practically

Text-fig. 199.

Cross-sections of left horns of the Mediterranean Ibex ($\times \frac{2}{3}$).

A. Madrid Museum, No. 449.

B. Madrid Museum, No. 1042.

similar in this respect. I have neither seen nor found mentioned any specimen from either Central Spain or the Mediterranean area with horns about one metre in length, such as frequently occur in Ibexes from the Pyrenees. There follows a table of horn-measurements of adult males in the three subspecies. The dimensions of specimens marked [Ch. & B.] after the owner's name, are converted into millimetres from Chapman and Buck's 'Unexplored Spain'; those of specimens marked [W.] from Rowland Ward's 'Records of Big Game.'

Pyrenean Ibez.				
Length on outside curve.	Basal circumference.	Tip to tip.	Locality.	Owner.
mm.	mm.	mm.		
1020	260	...	Valibierna.	Bagnères de Luchon Museum.
970	...	...	North Spain.	Paris Museum.
830	...	...	Ordesa Valley.	Bordeaux Museum.
787	222	675	Ordesa Valley*.	Sir Victor Brooke [Ch. & B.].
750	260	450 (about) †	Pyrenees.	Mainz Museum (Type) ‡.
730	255	585	Ordesa Valley.	Sir Victor Brooke [Ch. & B.].
698	255	495	Pyrenees.	British Museum [W.].
630	250	...	Benasque.	Nantes Museum.
610	...	...	Pyrenees.	Paris Museum.
590	...	...	Querigüña.	Toulouse Museum.
Gredos Ibez.				
815	252	690 †	Gredos.	H.M. the King of Spain.
768	240	595	Central Spain.	MM. Chapman & Buck [W.].
740	250	530	Bohoyo.	Madrid Museum (No. 447).
730	220	470 †	Gredos.	Madrid Museum (No. 1523).
715	245	620	Gredos.	Marquis of Torrecilla.
700	165	520	Gredos.	Señor Prado Palacio.
680	245	520	Las Hoyuelas.	Marquis of Viana.
650	260	550	Madrigal de la Vera.	Madrid Museum (No. 448).
630	260	540	Las Hoyuelas.	Marquis of Viana.
613	230	...	Gredos.	MM. Chapman and Buck [Ch. & B.].
Mediterranean Ibez.				
850	...	...	Sierra Morena.	Marquis of Mérito [Ch. & B.].
740	200	525	Sierra Nevada.	Madrid Museum (No. 449).
730	230	585	Sierra Nevada.	MM. Chapman and Buck [Ch. & B.].
650	...	...	Sierra Nevada.	Bordeaux Museum.
590	220	320	South Spain.	Señor E. Cortina.
590	210	470	Sierra Nevada.	Madrid Museum (No. 921).
580	200	...	Sierra Nevada.	Madrid Museum (No. 1043).
580	200	...	Sierra Nevada.	Mainz Museum.
570	250	410	Sierra Nevada.	Madrid Museum (No. 1042).
555	200	415	Sierra Martes.	Señor P. Burgoyne [Ch. & B.].

* MM. Chapman and Buck give merely "Pyrenees" as the locality of Sir Victor Brooke's specimens, but according to a letter of the owner himself, published by Count Russell (see Gourdon, Bull. Soc. Sc. Nat. de l'Ouest de la France, viii. 1908, pp. 6-8), they were obtained in Ordesa Valley, the Val d'Arras of the French.

† The tip of a horn is slightly broken.

‡ *Capra pyrenaica* was based by Schinz on specimens in the Mainz Museum, which are still there, as Dr. Reichenow kindly informs me. One of these specimens being an adult, although not old, male in winter coat, and the winter pelage being described first by Schinz, I think it convenient to choose it as the type.

I must now proceed to the complete description of the Central Spain Ibex. His Majesty King Alfonso XIII. has specially and graciously permitted me, at my own request, to dedicate this subspecies to Her Majesty Queen Victoria of Spain. I have great pleasure in doing so, in recognition both of her love of nature and of the fact that Royal protection only has prevented the total extinction of this splendid ruminant.

CAPRA PYRENAICA VICTORLE, subsp. n.

Diagnosis.—An intermediate form, in size and in the extent of the black markings, between *C. p. pyrenaica* and *C. p. hispanica*, rather browner than *hispanica* in the summer coat, and with horns similar in size to those of that race, but comparatively broader and flatter.

Colour.—Adult male, summer pelage: Upper surface of body pale broccoli-brown, sometimes inclining to raw umber, and more or less white-washed on the sides. Neck fawn-coloured, paler, and frequently whitish, on the under surface. A black stripe, bordered with white hairs, starts from a large black blot covering the nape and runs along the upper part of the neck and over the back, reaching to the tip of the tail. On the neck the hairs of this stripe are long and erect, forming a short mane. On the back the white hairs form a narrow and not very distinct light area on both sides of the black median line. Belly and inner side of thighs white. A broad black band, grizzled with white at the borders, crosses obliquely the lower part of the flanks, its anterior point going into the white of the underparts. Thighs black, except on the hinder border, which is light buff. The black spreads downwards, encircling the limb above the hock and covering the front and sides of the leg and the whole foot from some distance above the false hoofs. The fore feet and the front and lateral surfaces of the fore limbs are likewise black, this colour reaching the lower half of the shoulders, the chest, and the lower part of the ventral aspect of the neck, where it is coarsely mixed with white. Back of the legs creamy white. Forehead seal-brown; cheeks brownish grey; the eyes encircled with ochraceous buff, and the muzzle and the upper lip are of the same colour. The beard brownish black, this dark tint covering also the sides of the lower jaw to the rim of the mouth, whereas the middle of the lower lip is dirty white. The ears fawn-coloured on their outer aspect, yellowish white within.

Winter pelage: The main colour of the upper parts of the body and neck turns in winter a dirty buff, densely clouded with black on the flanks, the hairs being white at their bases and then pale cream-buff with a brown or blackish tip, and covering a whitish under-fur. Throat and underside of the neck seal-brown, touched here and there with chestnut. Black areas distributed as in the summer coat, but not so abruptly defined, their upper borders melting into the black clouding on the sides. The colours of the head are practically the same as in summer, the cheeks only being slightly paler and somewhat buffy.

Adult female: In summer pelage the general colour is an intermediate tint between cinnamon and fawn, paling to creamy white on the underparts, the inner side of the limbs, and the lateral and hinder surface of the legs. The muzzle and the sides of the face cream-buff. The fore part of the legs, from a short distance above the knees and hocks, Vandyk-brown. Tail like the back, with a seal-brown tip. Dorsal stripe and bands of the flanks quite absent. In winter coat the main colour is a dark dirty buff.

Young of both sexes, in the first year: Colour like adult females, but somewhat paler; the markings on the legs pale chestnut. The males begin to show the dark areas of the body in the third year, the black tint appearing first on the chest and lower part of the shoulders.

Skull and horns.—See above for the comparison between this and the other subspecies.

Measurements (of type, mounted).—Length from nose to root of tail, along the curves, 1355 mm.; tail, 130; hind foot, with hoofs, 385; ear, 120; height at shoulder, 700*.

Skull (of paratype, Madrid Museum, No. 1523): Total length, 264 mm.; interorbital breadth, 110; length of nasals along median suture, 95; greatest width of ditto, 40; upper molar series, 68; lower molar series, 75. For the horn-measurements, see the foregoing table (p. 974).

Type.—Old male in summer coat, from Madrigal de la Vera, on the southern slope of the Sierra de Gredos. Madrid Museum, No. 448.

The differences between this subspecies and both the typical and the Mediterranean forms of *C. pyrenaica*, fully discussed above, will be, I hope, clearly shown by the accompanying figures and plates. I have considered it unnecessary to give a coloured figure of the Pyrenean form, as there is a tolerably good one in Lydekker's 'Wild Oxen, Sheep, and Goats,' besides the portrait of a young male in Cuvier's 'Histoire Naturelle des Mammifères.' Unfortunately, the same cannot be said about *C. p. hispanica*. The figure published by Schinz in 'Monographien der Säugethiere' is anything but good, and the one in Rosenhauer's 'Thiere Andalusiens' is not much better, the rigidity and other defects of the mounted specimen, after which it was evidently made, being too faithfully reproduced by the artist. As for the Ibex of Central Spain, in Graells' 'Fauna Mastodológica Iberica,' there is a plate which appears to be an attempt to represent some of the specimens in the Madrid Museum; but they are figured in quite a grotesque and childish way, and the colour is entirely false. The Ibexes on the Risco del Fraile in Chapman and Buck's 'Unexplored Spain' are correctly drawn; but the illustration, being uncoloured, cannot give a complete idea of the animal.

* In an old buck from the Sierra Nevada, in the Madrid Museum, the length from nose to root of tail is 1190 mm.; the hind foot, 305.

